THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JERRY J. WEERS and TIMOTHY J. O'BRIEN

Appeal No. 1996-3673
Application No. 08/139,893[1]

ON BRIEF

Before JOHN D. SMITH, OWENS and KRATZ, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 14-35.

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[1] Application for patent filed October 19, 1993. According to the appellants, the application is a continuation of Application No. 08/031,062, filed March 12, 1993, now Patent No. 5,284,576, issued February 8, 1994; which is a continuation of Application No. 07/388,210, filed August 1, 1989.

Claim 14 is representative and is reproduced below:

14. A process for scavenging hydrogen sulfide from a sour fluid containing hydrogen sulfide and comprising production fluid, associate gas, residual fuel oil or waste water, the process comprising bringing said sour fluid into intimate mixture with a hydrogen sulfide scavenging amount of a hydrogen sulfide scavenger prepared by reacting under non-dehydrating conditions an alkylenepolyamine and formaldehyde wherein the alkylene polyamine is represented by the formula

$$H_2NRNH(RNH)_xH$$

wherein each R is independently an alkylene radical having 2 to about 20 carbon atoms and x is 0 to about 15, thereby scavenging hydrogen sulfide in the sour fluid by effecting a reaction between hydrogen sulfide in the sour fluid and the scavenger.

The references of record relied upon by the examiner are:

Wilson	2,238,201	April 15, 1941
Moyer et al. (Moyer)	2,496,595	February 7, 1950
Go	3,819,328	June 25, 1974

The appealed claims stand rejected under 35 U.S.C. § 103 as unpatentable over Moyer in view of Wilson and Go.

We cannot sustain the stated rejection.

The subject matter on appeal is directed to a process for scavenging hydrogen sulfide from various “sour fluids” associated with crude oil production (i.e., production fluid, associate gas, residual fuel oil, or waste water) by effecting

a reaction between the hydrogen sulfide in the sour fluid and a scavenger. Significantly, appellants' process requires the use of a particular scavenger which is a reaction product of an alkylenepolyamine and formaldehyde wherein the alkylenepolyamine is defined by the formula set forth in the appealed claims.

As evidence of obviousness of the claimed process, the examiner principally relies upon Moyer. The primary object of Moyer's invention is the provision of compositions comprising formaldehyde and an organic compound containing "at least one amino-reactive group" (column 2, lines 1 and 2) which are employed to treat hydrogen sulfide containing oil-brine mixtures to inhibit their corrosivity by the apparent mechanism of developing a dense film which acts as a protecting coating on the metallic oil well equipment contacted by the oil-brine mixtures (column 6, line 70 to column 7, line 16). Moyer's statement at column 7, lines 18-24 that the compositions "do not act merely to neutralize the acidic sulfur components of the oil well brine" to which the compositions are added implies, in our view, that at least some "scavenging" of hydrogen sulfide is effected by Moyer's

compositions. We also observe that Moyer exemplifies the use of 62.5 parts of "inhibitor" composition per million parts of brine, an amount that is greater than appellants' claimed lower limit "scavenging amount" of 20 ppm. See Moyer at column 3, lines 23-26 and appealed claim 19. Thus, we do not agree with appellants' argument that Moyer's prior art "inhibiting compositions" do not act as hydrogen sulfide scavengers.

Appellants are correct in stressing that none of the relied upon references, including Moyer, discloses a reaction product as defined in the appealed claims. As belatedly mentioned in their reply brief, appellants admit that Moyer does state that his invention contemplates reaction products of "amines and amino-reactive compounds" with formaldehyde. See column 6, lines 2-4 of Moyer. However, Moyer does not expressly describe or exemplify an alkylenepolyamine as defined by appellants' claims as an organic compound containing "at least one amino-reactive group", much less that an alkylenepolyamine/formaldehyde reaction product would provide any particular advantage in his invention. Looked at in a light most favorable to the examiner, it might be argued

that the disclosure of Moyer at column 1, lines 55 to column 2 ,line 2 in combination with the disclosure of Moyer at column 6, lines 2-4 constitutes a teaching of a genus of reaction products that includes appellants' claimed subgenus of alkylenepolyamine/formaldehyde reaction product scavengers. However, even considering the teachings of the "secondary references" of Wilson and Go which teach the related use of alkylenepolyamine compounds (not reaction products), it is apparent that there is inadequate guidance and direction in the prior art that would have led a person of ordinary skill in this art to the selection of appellants' claimed subgenus of "scavenger" reaction products.

Based on the above, we are constrained to agree with appellants that the relevant combined teachings of the relied upon references do not establish a prima facie case of obviousness for the subject matter defined by the herein appealed claims.

The decision of the examiner is reversed.

REVERSED

JOHN D. SMITH Administrative Patent Judge	)
TERRY J. OWENS Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
PETER F. KRATZ Administrative Patent Judge	)

jrg

Kenneth Solomon
Howell and Hafer Kemp, L.C.
7733 Forsyth Boulevard, Suite 1400
St. Louis, Missouri 63105